

In the Specification

Kindly replace paragraph [0001] with the following:

Technical Field

~~The present invention~~This disclosure relates to a container for housing and transporting loose bulk materials such as sand and scrap. More particularly, ~~the present invention~~this disclosure relates to a bottom opening type container, bottom plates of which are opened or closed arbitrarily only by hoisting or hoisting-down operations using a crane after a simple preparing operation is performed so that contents can be discharged.

Kindly replace paragraphs [0017] through [0033] with the following:

~~Disclosure of the Invention~~Summary

~~The present invention is devised in order to solve the above problems, and an object thereof is to realize~~I provide a bottom opening type container in which an open/close operation of an open/close arm is more secured with a simple constitution, a preparing operation for opening can be performed only on one side of the container, and the state of the preparing operation can be checked visually.

~~The present invention~~container is a bottom opening type container composed of side plates and a pair of bottom plates, having hinges of the bottom plates attached to near bottom portions of the side plates, locking pins provided near distal ends of the bottom plates, and a pair of open/close arms which are pivotally supported at around center portions thereof by fixed pins fixed to the side plates, and which interlock with each other via gear portions, and which are capable of locking the locking pins by lower end hook portions thereof, the container having an open/close control mechanism including: a hoisting plate which is supported pivotally about fixed a pin fixed to an upper portion of the side plate and has a hoisting hole at an outer end thereof for connecting a wire rope to

hoist the bottom opening type container; a vertical link one end of which is connected to the hoisting plate and the other end of which is connected to an oscillating link swingably supported to a fixed pin fixed to a lower portion of the side plate; a lateral link one end of which is connected to the oscillating link; a link which is inserted into a hollowed out plate fixed to a lower portion of the side plate, and one end of which is connected to the lateral link, and which is biased to one direction by a return spring; and an operation cam which has a rotating center thereof at a rear surface side of the open/close arm outside of the locking pin, and which restrains the rear surface of the open/close arm in a rise posture to maintain the open/close arms in a close state and releases the open/close arm in a down posture when the bottom plates are closed, wherein in a state that a distal end of the link or an extended portion attached to the distal end is placed on a stepped portion of the hollowed out plate or an upper end of the operation cam in a rise posture, one upper end of the open/close arms is restrained so that the open/close arms are maintained in the close state, wherein in a state that the distal end of the link or the extended portion attached to the distal end drops out of the stepped portion of the hollowed out plate or the upper end of the operation cam in the rise posture, one upper end of the open/close arms is released, wherein the link moves to a horizontal direction interlocking with a movement of the hoisting plate, and the placed state is changed into the dropped state, so that the open/close arms are pressed to an open direction by a hoisting force. ~~The present invention~~container is desirably the bottom opening type container wherein the open/close control mechanism is provided to both sides viewed from the hinges of the bottom plates, and the respective operation cams are connected to each other via a connecting shaft.

Brief Description of the Drawings

Fig. 1 is a front view illustrating a bottom opening type container ~~according to an embodiment of the present invention.~~

Fig. 2 is a plan view illustrating the bottom opening type container ~~according to the embodiment of the present invention.~~

Fig. 3 is a side view illustrating the bottom opening type container ~~according to the embodiment of the present invention.~~

Fig. 4 is a partial front view illustrating an open/close control mechanism ~~according to the embodiment of the present invention.~~

Fig. 5 is a partial front view illustrating the open/close control mechanism ~~according to the embodiment of the present invention.~~

Fig. 6 is a partial front view illustrating the open/close control mechanism ~~according to the embodiment of the present invention.~~

Fig. 7 is a partial front view illustrating the open/close control mechanism ~~according to the embodiment of the present invention.~~

Fig. 8 is a partial front view illustrating the open/close control mechanism ~~according to the embodiment of the present invention.~~

Fig. 9 is a partial front view illustrating a hoisting mechanism ~~according to the embodiment of the present invention.~~

Fig. 10 is a perspective view illustrating a link as a part of the open/close control mechanism ~~according to the embodiment of the present invention.~~

Fig. 11 is a front view illustrating a hollowed out plate as a part of the open/close control mechanism ~~according to the embodiment of the present invention.~~

Fig. 12 is a partial perspective view illustrating a main section of a bottom plate ~~according to the embodiment of the present invention.~~

Figs. 13A to 13C are explanatory diagrams illustrating using states of the bottom opening type container-according to the embodiment of the present invention.

Fig. 14 is a perspective view illustrating a state that the bottom plates of the bottom opening type container are closed-according to the present invention.

Fig. 15 is a perspective view illustrating a state that the bottom plates of the bottom opening type container are opened-according to the present invention.

Kindly replace paragraphs [0039] through [0041] with the following:

Figs. 21A and 21B are perspective views illustrating a part of the open/close control mechanism according to the conventional example.

~~<Description of Reference Numerals>~~Detailed Description

I first provide a listing of reference numbers and associated structures as follows:

1	container
2	hoisting frame
3	hoisting section
4	open/close control mechanism
11	bottom plate
12	hinge (for opening and closing bottom plate)
13	locking pin
14	side plate
15	bottom plate guide
16	bottom plate roller
17	bottom plate guide receiver
18	fork hole

21	auxiliary wire rope
31, 31a	hoisting plate
32	vertical link
33	oscillating link
34	intermediate link
35	lateral link
41	operation cam
42	rotary rod
43	open/close arm
44	hollowed out plate
45	link
46a to 46c	fixed pin
47a to 47d	link pin
48a to 48d	connecting pin
49a	open spring
49b	pressing-down spring
49c	return spring
311	hoisting hole
312	connecting bar
313	long hole
411	connecting shaft
412	spring plunger
413, 432	upper end

421	operation lever
422	elevating block
423	spring retaining sleeve
424	groove portion
431	hook portion
432a, 432b	pressing portion
433	gear portion
434	intermediate stepped portion
441, 451	locking portion
442	stepped portion
452	distal end
453	extended portion
W	hoisting wire rope

~~Best Modes for Carrying Out the Invention~~

~~In order to solve the above problems, a~~ bottom opening type container ~~of the present invention is improved as follows:~~

- (a) the same function as that of the conventional art can be realized by a small number of parts;
- (b) since an open/close arm 43 is opened by a hoisting load, even if mechanical resistance such as frictional force is strong, it can be operated securely;
- (c) a check can be easily made by viewing a direction of an operation cam whether a preparing operation for opening is performed or not; and

(d) since operation cams on both sides of the container are connected by a connecting shaft, the preparing operation for opening can be performed only on one side of the container.

<Embodiment>

An embodiment example of the present invention container will be explained with reference to the drawings. The container of this embodiment aspect is of a bottom opening type and similarly to the example shown in Figs. 14 to 21, it is hoisted at four corner points of the bottom portion. However, a hoisting position is an upper portion of a side plate of the container.

Kindly replace paragraph [0045] with the following:

Before the open/close control mechanism 4, Fig. 9 will be explained. Two of the four hoisting portions are the fixed hoisting plates 31a as mentioned above, but the remaining two ~~[[is]]~~ are movable hoisting plates 31 which rotationally move about the fixed pins 46a. Up-down movement of the movable hoisting plates 31 is transmitted to a vertical link 32 and changed into a horizontal movement by an oscillating link 33, and transmitted to a lateral link 35 via an intermediate link 34, and the hoisting force is changed into a force directing left by a link pin 47d so that the link 45 is operated. The rotational moving range of the hoisting plate 31 is regulated in such a manner that the end of a long hole 313 which is longer in a circumferential direction butts against a connecting pin 48d. To prevent the hoisting load from directly acting on respective portions of the open/close control mechanism 4, it is desirable that the moving range of the link 45 in the hollowed out plate 44 has slight margin in the state that the end of the long hole 313 comes in contact with the connecting pin 48d.

Kindly replace paragraph [0059] with the following:

Industrial Applicability

~~According to the present invention, the~~The bottom opening type container, in which the opening/closing of the bottom plates of the container is controlled by a secure operation, the state of the operation cam in the open/close control mechanism can be visually checked, and the operation cam can be handled only on one side of the container, is realized. As a result, the excellent effect such that the efficiency and the safety of the loading work are improved, is produced.